SDST Report

- Beta Software Delivery
- Prototyping
- EOSDIS
- Test Data
- Geolocation

Beta Software Deliveries

- 1/94 Heritage s/w
- 10/94 "MODIS" s/w
- 4/95 Integrated "MODIS" s/w
- 6/95 Deliver Beta s/w to ESDIS

ALGORITHM DELIVERY STATUS

Investigator	MODIS Product #	Name	Status
Salomonson	2(1)	L1B	Tested successfully
Kaufman/Tanre	4(1)	Aerosol Optical Depth	Tested successfully modis-xl; not on ltpsun
Menzel/King	6(2)	Cloud Phase	Not run; includes McIDAS data structures and subroutine calls
King/Menzel	6(3-4)	Cloud Drop Size/Optical Depth	Tested successfully on modis-xl
Strahler	9(2-5)	BRDF	Tested successfully on ltp sun; not on modis-xl or hp
Salomonson/Hall	10()	Snow Cover	Tested successfully
Wan	11(1)	Land Temperature	Builds and tests on modis-xl; minor discrepancies with supplied results
Strahler/Huete	12(1-2)	Land Cover	Requires use of neural network software, available on ltpsun

WORK PERFORMED

- Exercised configuration management procedures for Beta-1 delivery
- Executed delivered software and compared generated output with delivered output
- Diagnosed porting and programming errors
- Reviewed ATBD's for information related to PGE development

LESSONS LEARNED

- Use FORTRAN and C language programming statements rather than compiler options to generate executable code

  e.g., use FORTRAN SAVE statement, not -static on SGI

- Be sure that all referenced function and library routines are part of FORTRAN and C language standards

- If possible, generate input and output tables and test data in ASCII format

- Do not use in-line system-dependent file references

  e.g., a directory path in a UNIX-based system

- SDST should be more specific in the format and list of delivery items

BETA-II SOFTWARE DELIVERY

- Expected in October 1, 1994 delivery

- Required Features

  - Science code based on ATBDs
  - PGS toolkit I/O functions used for I/O
  - Simulated MODIS and ancillary data used for input data
  - Adherence to ECS software standards

- Recommended Features

  - Follow proposed MODIS changes to ECS software standards

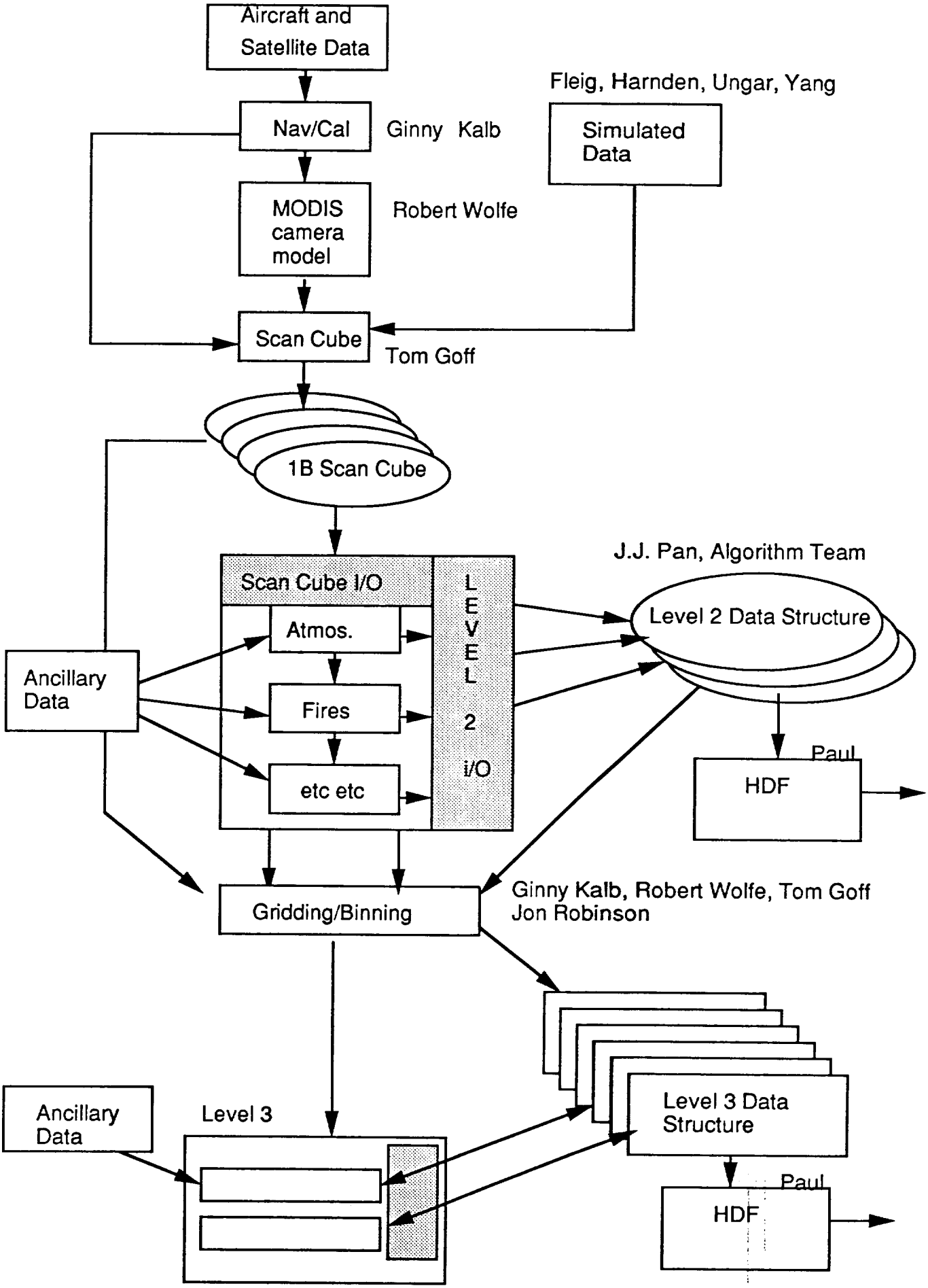
Prototyping

Facilitate development and integration of MODIS science software by:

- providing operations support in a computing center set-up to process large data sets
- assembling and coregistering data sets
- providing programming support to integrate software
- participating in cooperative efforts with MODIS Teams, Pathfinders, DAACs, ECS project and HAIS

Prototyping

- Science algorithm integration
- Ancillary data set preparation
- Data Structures for Level 1, 2 &3
- Toolkit, Scheduler and HDF
- TLCF Sizing/Architecture


Aircraft and Satellite Data
Fleig, Harnden, Ungar, Yang
Nav/Cal
Ginny Kalb
Simulated Data
MODIS camera model
Robert Wolfe
Scan Cube
Tom Goff
1B Scan Cube
J.J. Pan, Algorithm Team
Scan Cube I/O
LEVEL 2 i/O
Atmos.
Fires
etc etc
Level 2 Data Structure
Ancillary Data
Paul
HDF
Ginny Kalb, Robert Wolfe, Tom Goff
Jon Robinson
Gridding/Binning
Ancillary Data
Level 3
Level 3 Data Structure
Paul
HDF

Global Grids

- **Goode's Interrupted Homolosine**
  AVHRR Land Pathfinder software

- **ISLSCP / SeaWiFS grid**
  Miami software

- **Spherical Coordinates**
  University of Maryland/AVHRR Land Pathfinder

Gridding/Binning Questions

- Which grid or grids?
- What is the origin?
- What about multiple resolutions?
- Which resampling methods for filling bins?
- What do we grid? Level 1B , Level 2 and/or ancillary products?

EOSDIS/DPFT

- Project set of s/w standards and guidelines approved 1/94 (EOSDIS document 423-16-01)
- SDST has proposed modifications to standards.
- Approved languages: Fortran 77, Fortran 90, C and soon C++

EOSDIS/DPFT

- PGS Toolkit delivery 2 (I/O and geolocation)
- New architecture for EOSDIS
- Relatively few dollars for cpu purchase in DAACs